

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (currently amended) An image data filtering method for reducing blocking effect and noise when a frame of the image data is composed of data blocks of predetermined size, the method comprising:

checking whether all coefficients of pixels in a predetermined region of the data block ~~is~~ are equal to zero or not ~~in inter mode or intra mode from the received bitstream image data;~~

generating filtering information on whether the data block requires filtering depending on whether all coefficients of pixels in the predetermined region of the data block are equal to zero or not ~~the checked mode of the data block;~~ and

filtering the data block passed through inverse quantization and inverse discrete cosine transform according to the generated filtering information.

2. (currently amended) ~~The method of claim 1, the filtering information generating step comprising generating flag information on the data block from predetermined pixels of the upper and left boundary regions of the data block when the flag information indicates intra mode.~~

The method of claim 1, wherein the filtering information is determined according to coefficients of a pixel A located at an upper left corner of the block, a pixel B located to the right of the pixel A, and a pixel C located below the pixel A.

3. (currently amended): ~~The method of claim 1, the filtering information generating step comprising generating flag information on the data block using a motion vector and a residual signal of the data block when the flag information indicates inter mode.~~

The method of claim 2, wherein the filtering information is set to “1”, which indicates the image data requiring filtering when any coefficient of pixels other than the pixels A, B and C of the block is not equal to “0”.

4. (currently amended) An image data filtering apparatus for reducing blocking effect and noise when a frame of the image data is composed of data blocks of predetermined size, the apparatus comprising:

a checking unit to check whether all coefficients of pixels in a predetermined region of the data block are equal to zero or not in inter mode or intra mode from the received bitstream image data;

a generating unit to generate filtering information on whether the data block requires filtering depending on whether all coefficients of pixels in the predetermined region of the data block are equal to zero or not the checked mode of the data block; and

a filtering unit to filter the data block passed through inverse quantization and inverse discrete cosine transform according to the generated filtering information.

5. (currently amended): The apparatus of claim 4, wherein the filtering information generating unit generates the filtering information according to coefficients of a pixel A located at an upper left corner of the block, a pixel B located to the right of the pixel A, and a pixel C located below the pixel A comprises an intra-filtering information generator which is used when

~~the data block is in intra mode and an inter filtering information generator which is used when the data block is in inter mode.~~

6. (currently amended): The apparatus of claim 5, wherein the filtering information is set to “1” which indicates the image data requiring filtering when any coefficient of pixels other than the pixels A, B and C of the block is not equal to “0”~~wherein the intra filtering information generator generates filtering information of the data block from predetermined pixels of the upper and left boundary regions of the data.~~

7. (canceled).

8. (new): The method of claim 1, wherein the predetermined pixels comprise a pixel A, located at an upper left corner of the block, a pixel B, located to the right of the pixel A, and a pixel C, located below the pixel A.

9. (new): The method of claim 8, wherein the filtering information comprises:
a horizontal filtering flag and a vertical filtering flag;
wherein if a coefficient of the pixel A is not equal to 0, said horizontal filtering flag and said vertical filtering flag are both set to 1;
if a coefficient of the pixel B is not equal to 0, said vertical filtering flag is set to 1; and
if a coefficient of the pixel C is not equal to 0, said horizontal filtering flag is set to 1.

10. (new): The method of claim 9, wherein:

if a coefficient of any pixels of the upper boundary region of the block are not equal to zero, said vertical filtering flag is set to 1; and

if a coefficient of any pixels of the left boundary region of the block are not equal to zero, said horizontal filtering flag is set to 1.

11. (new): The apparatus of claim 4, wherein the predetermined pixels comprise a pixel A, located at an upper left corner of the block, a pixel B, located to the right of the pixel A, and a pixel C, located below the pixel A.

12. (new): The apparatus of claim 11, wherein the filtering information comprises:
a horizontal filtering flag and a vertical filtering flag;
wherein if a coefficient of the pixel A is not equal to 0, said horizontal filtering flag and said vertical filtering flag are both set to 1;
if a coefficient of the pixel B is not equal to 0, said vertical filtering flag is set to 1; and
if a coefficient of the pixel C is not equal to 0, said horizontal filtering flag is set to 1.

13. (new): The apparatus of claim 12, wherein:
if a coefficient of any pixels of the upper boundary region of the block are not equal to zero, said vertical filtering flag is set to 1; and
if a coefficient of any pixels of the left boundary region of the block are not equal to zero, said horizontal filtering flag is set to 1.